

SOME NEW TREES AND SHRUBS FROM MEXICO

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Carya mexicana Engelm. forma ***polyneura***, f. nov.

A typo recedit foliolis plerisque elliptico-lanceolatis margine penicillato-ciliolato excepto glabris vel fere glabris, nervis utrinsecus 15–20 tantum 3–6 mm. distantibus, exocarpio tenui 1.5–3 mm. crasso.

NUEVO LEON: Sierra Madre Oriental, Puerto Blanco to Taray, about 15 m. s.w. of Galeana, *C. H. and M. T. Mueller*, no. 1226, July 23, 1934, "shrub or small tree very abundant in more or less moist woods, practically all over the mountain" (type).

This form, at the first glance, looks very distinct with its closely and conspicuously veined leaflets, glabrous except the ciliate margin and a few hairs on the under side near the base, but among the numerous specimens under no. 1226 there are larger detached leaves, apparently from sterile vigorous branches, or from different trees, with more distant veins and thinly pilose over the whole under surface; these leaves do not differ at all from those of typical *C. mexicana*. Also the difference in the thickness of the husk does not seem to segregate the tree of the Sierra Madre Oriental from that of the type locality of the species, Alvarez, San Luis Potosi. A fruit of Palmer's no. 835½ which represents the type of *C. mexicana* has the husk in a dry state up to 6 mm. thick, while most specimens collected in the same locality by Dr. A. R. Goodman in 1910 have the husk only 2–3 mm. thick and a smaller nut resembling in shape that of *C. ovalis* var. *obcordata*, but one lot of seeds has the husk as thick as in the type.

It thus appears that *C. mexicana* varies as much in the thickness of its husk and in the pubescence of its leaves as *C. ovata* (Mill.) K. Koch, to which it is closely related: in fact, I cannot find any strong character to separate the two, and I believe that *C. mexicana* is only a southern climatic form of *C. ovata*. The buds are generally smaller, but in a specimen collected by Dr. E. Palmer in 1902 (no. 71) the terminal winter-bud is 1.5 cm. high. Nothing seems to be known of the character of the bark, and until we have more complete material, *C. mexicana* may be kept distinct. I also have before me a flowering specimen from La Jolla Ranch, Tamaulipas (Robert Runyon 1019) with nearly glabrous leaves. Thus the species seems to be restricted to three adjoining departments in northeastern Mexico, namely Nuevo Leon, San Luis Potosi and Tamaulipas.

Litsea Muelleri, spec. nov.

Frutex ramis gracilibus hornotinis ut petioli dense fulvo-villosis tertio vel quarto anno tarde glabrescentibus fuscis vel partim flavidis. Folia persistentia, coriacea, ovata, 2–4.5 cm. longa et 1.2–3.2 cm. lata, breviter acuminata vel acuta, basi rotundata vel subcordata, supra minute reticulata et tenuiter villosa demum glabrescentia, luteo-viridia, subtus tomentosa, glauca, nervis utrinsecus circiter 5 ut costa supra leviter vel vix elevatis, subtus distincte elevatis, costa flavescens; petioli 2–4 mm. longi, tomentosi. Inflorescentiae pleraeque 3-florae, axillares, solitariae vel 2–3 fasciculatae; pedunculi 1.5–3 mm. longi, fusco-pilosi ut pedicelli; pedicellus medius 1–1.5 mm. longus, laterales breviores; bractae caducae, extus fusco-pilosae; perianthium tubo nullo, segmentis ovalibus 2.5–3 mm. longis basi extus strigosa exceptis glabris; stamina 9, filamentis glabris vix dimidias antheras subrectangulares truncatas aequantibus, ea seriei tertiae glandulis binis filamenta subaequantibus aucta; ovarium parvum, ovoideum, in stylum brevem attenuatum. Fructus tantum immaturi circ. 5 mm. diam. visi.

NUEVO LEON: Sierra Madre Oriental, east side of divide between San Francisco Canyon and Pablillo, 15 miles s.w. of Galeana; alt. 8500 ft., common in dense woods, *C. H. and M. T. Mueller*, no. 379, May 14, 1934 (type); Sierra Madre Oriental, cañon above Alamar, about 15 miles s.w. of Galeana, alt. 5000–6000 ft., common in open oak wood, *C. H. and M. T. Mueller*, no. 689, June 2, 1934 (with immature fruit).

This species seems to be most closely related to *Litsea Neesiana* (Schau.) Hemsl. which is easily distinguished by its larger and narrower leaves, cuneate or broadly cuneate at base, by the larger inflorescence, longer peduncles and filaments longer than the anthers; in the shape of the leaves it resembles *L. parvifolia* (Hemsl.) Mez, but that species is quite glabrous and the pedicels are long and slender.

Amelanchier paniculata, spec. nov. (§ Malacomeles).¹

Frutex ramulis satis validis initio dense albo-tomentosi ut petioli et facies inferior foliorum, annotini tarde glabrescentes rubro-fusci, vetustiores griseo-fusci. Folia persistentia, chartacea vel subcoriacea,

¹**Amelanchier** sect. **Malacomeles** (Dcne.), comb. nov.

Nagelia Lindley in Bot. Reg. 31 (Misc.): 40 (1845).

Nägelia Lindley, Veg. Kingd. 560 (1846). — Wenzig in Linnaea, 43: 80 (1880)

"Naegelia." — Non *Naegelia* Rabenhorst, Kryptog. 1: 85 (1844).

Cotoneaster sect. *Malacomeles* Decaisne in Nouv. Arch. Mus. Hist. Nat. Paris, 10: 177 (1874).

Cotoneaster A. *Naegelia* (Lindl.) Wenzig in Jahrb. Bot. Gart. Mus. Berlin, 2: 304 (1883).

Amelanchier sect. *Nagelia* [Lindl.] Koehne, Gatt. Pomac. (in Wiss. Beil. Progr. Falk-Realgymnas. Berlin, p. 25. 1900). — Schneider, Ill. Handb. Laubholzk. 1: 742 (1906).

oblongo-elliptica vel oblonga vel interdum obovato-oblonga, 3.5–7.5 cm. longa et 1.5–3 cm. lata, acutiuscula vel obtusiuscula, mucronulata, basi cuneata vel late cuneata, rarius fere rotundata, integra vel interdum remote et minute denticulata denticulis ad mucronem reductis, supra costa tenuiter villosa et margine dense villosula exceptis ab initio glabra, laete viridia, subtus dense albo-tomentosa, nervis utrinsecus 15–20 supra ut costa media leviter impressis, subtus prominulis et costa media manifeste elevata; petiolis 5–10 mm. longi, dense tomentosi. Inflorescentiae terminales, paniculatae vel simpliciter racemosae, pleraeque pedunculis inferioribus trifloris superioribus unifloris, rarius simpliciter racemosae, rarissime pedunculis inferioribus 7-floris et superioribus trifloris, 3–5 cm. longae, albo-tomentosae; pedicelli 3–10 mm. longi; calycis tubus 2.5 mm. longus, extus ut lobi leviter floccoso-tomentosus mox glaber, lobi triangulari-ovati, acuti, mucronulati; petala late ovalia, vel suborbicularia, basi abrupte contracta, circiter 6 mm. longa, glabra; stamina circiter 20, petalis dimidio breviora, antheris cordato-ovatis 1 mm. longis; carpidiis 3–5, dorso apice conico libero longe villosus excepto calycis tubo adnatis ventre fere ad basin liberis villosis; styli basi excepta glabri, staminibus paullo longiores. Fructus immaturus subglobosus, circiter 8 mm. longus, calycis lobis reflexis intus extusque glabris margine villosulo-ciliolatis coronatus.

NUEVO LEON: Sierra Madre Oriental, San Francisco Cañon, about 15 miles s.w. of Galeana, alt. 7500–8000 ft., scattered on rocky soil in open or scrub wood, *C. H. and M. T. Mueller*, no. 282, May 9, 1934 (type).

This new species belongs to the section *Malacomeles* and seems most closely related to *A. nervosa* Dcne., but readily distinguished by the much larger, generally oblong and entire or nearly entire leaves and the usually paniculate inflorescence.

As *Malacomeles* is the earliest sectional name of this group, it must be maintained, when the section is transferred to *Amelanchier*. Moreover, *Nagelia* is an illegitimate name being a later homonym of *Naegelia* Rabenhorst. *Nagelia*, *Nägelia* and *Naegelia* must be considered orthographic variants of the same name, since both genera are named in honor of Karl Naegeli.

Arctostaphylos novoleontis, spec. nov. (§ *Comarostaphylis*).

Frutex ramulis hornotinis puberulis, secundo vel tertio anno glabrescentibus fuscis decorticantibus. Folia persistentia, lanceolata, 3–6 cm. longa et 6–12 mm. lata, interdum minora, acuta vel obtusiuscula, mucronulata, basi cuneata, margine integro cartilagineo et praesertim basin versus leviter revoluta, supra luteo-viridia, lucidula, tenuiter villosula, demum glabrescentia, subtus glauca, breviter villosula, costa media supra

leviter impressa subtus elevata, nervis utrinque obsoletis; petioli 4–6 mm. longi, tenuiter villosuli. Panicula 3–6 cm. longa, interdum ad racemum reducta, minute canescenti-puberula, laxiflora; pedicelli graciles, 4–10 mm. longi; sepala 5, triangulari-ovata, acuminulata, 1.75 mm. longi, extus parce villosula, ciliolata, rubra; corolla cylindrico-urceolata, 8–10 mm. longa, extus glabra, intus sparse villosula; lobis latis rotundatis recurvatis; stamina dimidiam corollam aequantia, filamentis glabris ima basi dilatatis, antheris bi-aristatis; stylus corollam subaequans ut ovarium 5-loculare glaber. Fructus immaturus 4 mm. diam., granulatus, obscure fusco-ruber.

NUEVO LEON: Sierra Madre Oriental, San Francisco Cañon, about 15 miles s.w. of Galeana, alt. 7500–8000 ft.; sparse on top of hill above the upper cañon, *C. H. and M. T. Mueller*, no. 319, May 12, 1934, (type); Sierra Madre Oriental, last hill on west side of lower San Francisco Cañon, about 15 miles s.w. of Galeana, common in shrub zones on slopes and tops, *C. H. and M. T. Mueller*, no. 1032, July 15, 1934, "fruit dark brownish red."

This species seems to be most closely related to *A. polifolia* H.B.K., *A. glaucescens* H.B.K. and *A. minor* (Small) Standl.; from the first two species it is readily distinguished by the glabrous ovary and from *A. polifolia* also by the glabrous filaments, from *A. minor* it differs in the larger and broader more pubescent leaves, the smaller corolla and the pubescent filaments. The fruiting specimen, no. 1032, differs somewhat in the smaller leaves 1.5–4 cm. long and 4–7 mm. broad and less densely pubescent.

Menodora Muellerae, spec. nov.

Suffrutex humilis, decumbens, ramosissimus, 15 cm. vix excedens, caulibus subteretibus viridibus, rima basibus foliorum decurrentibus formata hispidula excepta glabris. Folia opposita, crassiuscula, vix distincte petiolata, 4–10 mm. longa, lineari-oblonga vel anguste oblanceolata, inferiora interdum lineari-subulato, acuta et mucronata, basin versus sensim attenuata, basibus foliorum oppositorum contiguis rimam hispidulam ad par foliorum inferius decurrentem formantibus, margine setis brevibus leviter reflexis setoso-ciliolata, ceterum glabri, costa media subtus elevata. Flores in apice ramulorum solitaria; pedicellus 2–4 mm. longus, pilosulus; calyx campanulatus, tubo circ. 1.5 mm. longo glabro vel basin versus sparse pilosulo, lobis plerumque 10 subulato-linearibus 5–6 mm. longis ciliolatis; corolla hypocraterimorpha, tubo gracili apicem versus leviter ampliata 12–14 mm. longo, lobis oblongis 6–7 mm. longis acuminulatis; stamina exserta, dimidios lobos aequantia, filamentis glabris 5 mm. longis circiter 3 mm. infra faucem tubo affixis, antheris

oblongis 2.5 mm. longis; stylus staminibus paullo longior; stigmatibus capitato lato. Fructus circ. 7 mm. diam.; pedicellis recurvatis, coccis circumcissilibus; semina plerumque 2 vel 3, rarius 4 vel 1, ovoidea vel oblongo-ovoidea, plus minusve compressa, circ. 4 mm. longa, atrofusca.

NUEVO LEON: Sierra Madre Oriental, cedar savannah above Encinal wheatfields, about 15 miles s.w. of Galeana, alt. about 7500–8000 ft., abundant over small areas, *C. H. and M. T. Mueller*, no. 463, May 19, 1934 (type).

This species seems to be most closely related to *M. longiflora* A. Gray on account of the salver-shaped corolla with a long slender tube, though not as long as in *M. longiflora*, but it is easily distinguished by the decumbent habit, smaller, much narrower leaves, exserted stamens and solitary flowers with the pedicels recurved in fruit. The species is named in honor of Mrs. Mary Taylor Mueller who accompanied her husband on his Mexican expedition.

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